

## Elastic IP

An Elastic IP is like having own fixed address in digital world of Web Services.

It's a special type of address that you can attach to your virtual servers in AWS.

Once you get an Elastic IP ,it's yours until you decide to release it. It stays associated with your account.

Even if you stop and start your instance , the Elastic IP stays the same.It doesn't change like regular IP addresses do .

So, an Elastic IP is like having your own permanent mailbox in the cloud. NO matter where your instances moves ,its address stays the same.

## Network Interfaces

Network Interfaces are like virtual network cards for your instances.

They help your instances talk to each other inside your cloud setup also connect to the wider internet.

They're like the digital adapters that help your instances communicate within your cloud setup and with the broader internet.

## Placement Group

Placement group is like putting your instances into groups within the same availability zone .

These groups helps to control where your instances go in the physical data center.

There are Three Types :

### 1)Spread Placement group :

Instances are placed on separate hardware to reduce the risk of simultaneous failure, it is ideal for critical applications like databases.

### 2)Cluster Placement group :

Instances are located close together to enable low-latency, high bandwidth communication, suitable for high performance computing.

### 3)Partition Placement group :

Instances are spread across logical partitions, useful for large distributed workloads such as distributed databases and file systems.

**###GIVE THE ELASTIC IP TO INSTANCE###**

Step I : Create the Instance.

Check here it's ip is 52.23.249.209 stop this instance.

Instances (1/2) [Info](#)

Find Instance by attribute or tag (case-sensitive) Any state

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
<input type="checkbox"/>	waar	i-04b4047b0445d7af5	Stopped	t2.micro	–	<a href="#">View alarms +</a>	us-east-1c	ec2-44-208-104-97.co...
<input checked="" type="checkbox"/>	elastic	i-08a78949cf8c7d328	Running	t2.micro	Initializing	<a href="#">View alarms +</a>	us-east-1c	ec2-52-23-249-209.co...

Start Again and check here it's ip is 54.242.46.98 it gets changes .

Notifications 0 0 2 0 0

Instances (1/2) [Info](#)

Find Instance by attribute or tag (case-sensitive) Any state

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...
<input type="checkbox"/>	waar	i-04b4047b0445d7af5	Stopped	t2.micro	–	<a href="#">View alarms +</a>	us-east-1c	ec2-44-208-104-97.co...	44.208.104.97
<input checked="" type="checkbox"/>	elastic	i-08a78949cf8c7d328	Running	t2.micro	Initializing	<a href="#">View alarms +</a>	us-east-1c	ec2-54-242-46-98.com...	54.242.46.98

To solve this problem we use elastic ip.

Step II : Go to “Elastic IP” in “Network & Security”.

Step III : Click on “Allocate Elastic IP address” and then “Allocate”.

**Elastic IP addresses**

Q Find resources by attribute or tag

Name	Allocated IPv4 address	Type	Allocation ID	Reverse DNS record	Associated instance ID	Private IP address	Association ID	Network interface owner
No Elastic IP addresses found in this Region								

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EC2 > Elastic IP addresses > Allocate Elastic IP address

### Allocate Elastic IP address [Info](#)

**Elastic IP address settings [Info](#)**

Network border group [Info](#)

Q us-east-c X

**Public IPv4 address pool**

☒ Amazon's pool of IPv4 addresses

☐ Public IPv4 address that you bring to your AWS account with BYOIP. (option disabled because no pools found) [Learn more](#)

☐ Customer-owned pool of IPv4 addresses created from your on-premises network for use with an Outpost. (option disabled because no customer owned pools found) [Learn more](#)

**Global static IP addresses**

AWS Global Accelerator can provide global static IP addresses that are announced worldwide using anycast from AWS edge locations. This can help improve the availability and latency for your user traffic by using the Amazon global network. [Learn more](#)

Create accelerator

**Tags - optional**

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

No tags associated with the resource.

Add new tag

You can add up to 50 more tag

Cancel Allocate

Step IV : Select the allocated IP and click “Actions”.

**Elastic IP addresses (1/1)**

Q Find resources by attribute or tag

Public IPv4 address: 34.233.250.209 X Clear filters

Name	Allocated IPv4 address	Type	Allocation ID	Reverse DNS record	Associated instance ID	Private IP address	Association ID	Network interface owner
-	34.233.250.209	Public IP	elpalloc-0f1ae8880a8eccc3	-	-	-	-	-

Actions [Allocate Elastic IP address](#)

- View details
- Release Elastic IP addresses
- Associate Elastic IP address
- Disassociate Elastic IP address
- Update reverse DNS
- Enable transfers
- Disable transfers
- Accept transfers

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**Elastic IP addresses (1/1)**

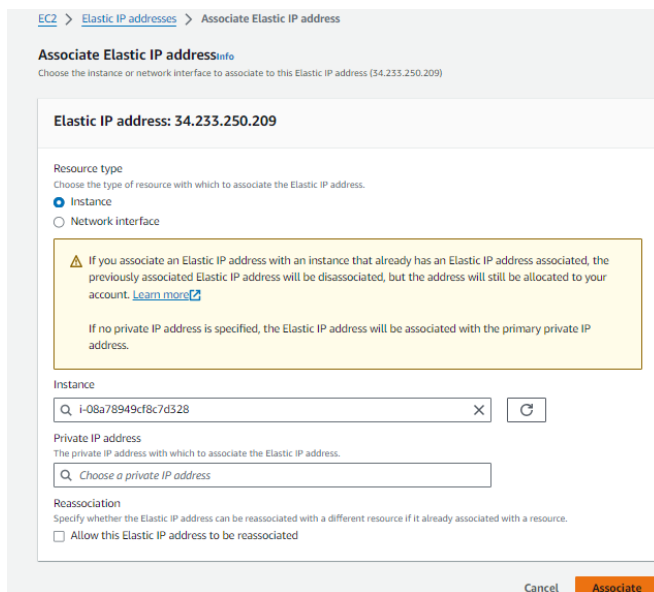
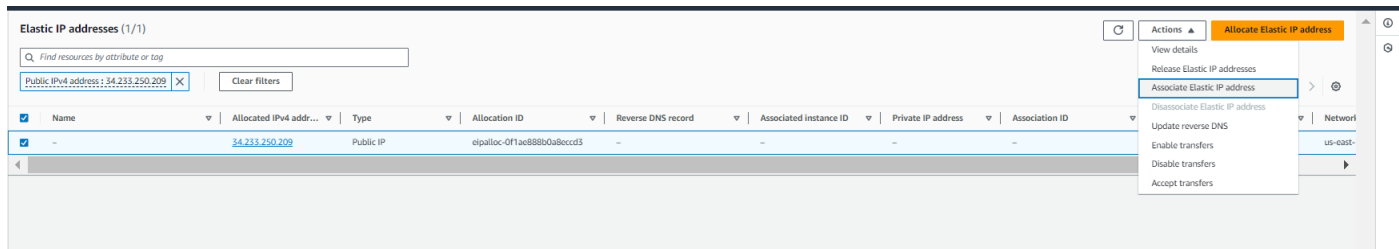
Q Find resources by attribute or tag

Public IPv4 address: 34.233.250.209 X Clear filters

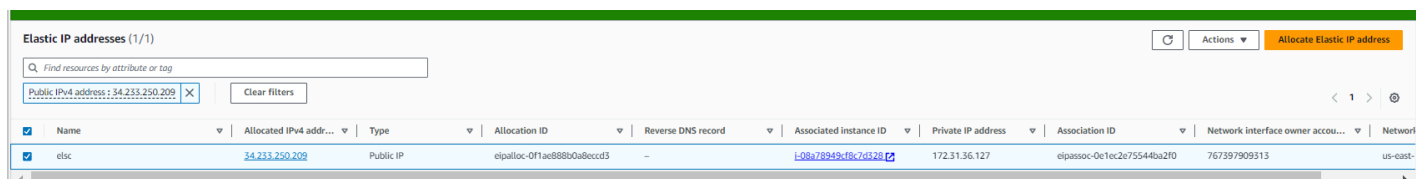
Name	Allocated IPv4 address	Type	Allocation ID	Reverse DNS record	Associated instance ID	Private IP address	Association ID	Network interface owner
elc	34.233.250.209	Public IP	elpalloc-0f1ae8880a8eccc3	-	i-08a78949c7f8c7d328	172.31.36.127	elpassoc-0e1ec2e75544ba2f0	767397909313

Step V : Choose “Associate Elastic IP address”.

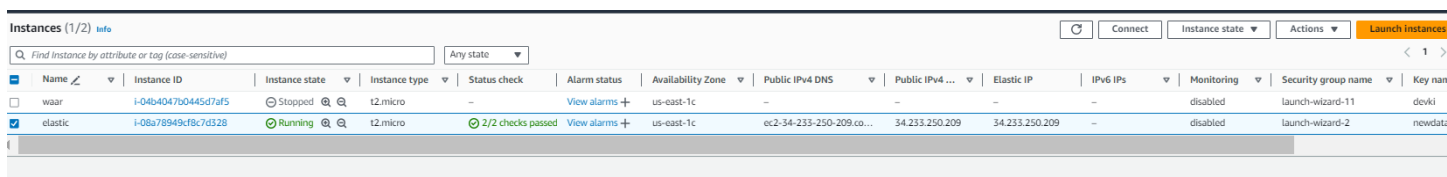
## Step VI : Select the instances and click on “Associate”.



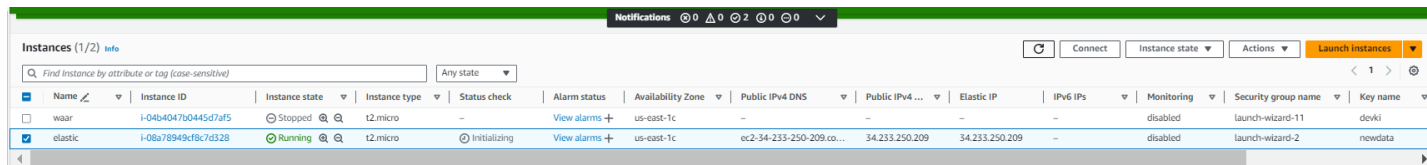
Elastic IP address gets created.



See here ,ip of elastic instance is 34.233.250.209 stop instance.



Start instance again ,see here ip is not changed.



	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP	IPv6 IPs	Monitoring	Security group name	Key name
<input type="checkbox"/>	waar	i-04b4047b0445d7af5	Stopped	t2.micro	-	View alarms +	us-east-1c	-	-	-	-	disabled	launch-wizard-11	devki
<input checked="" type="checkbox"/>	elastic	i-08a78949cf8c7d328	Running	t2.micro	Initializing	View alarms +	us-east-1c	ec2-34-233-250-209.co...	34.233.250.209	34.233.250.209	-	disabled	launch-wizard-2	newdata

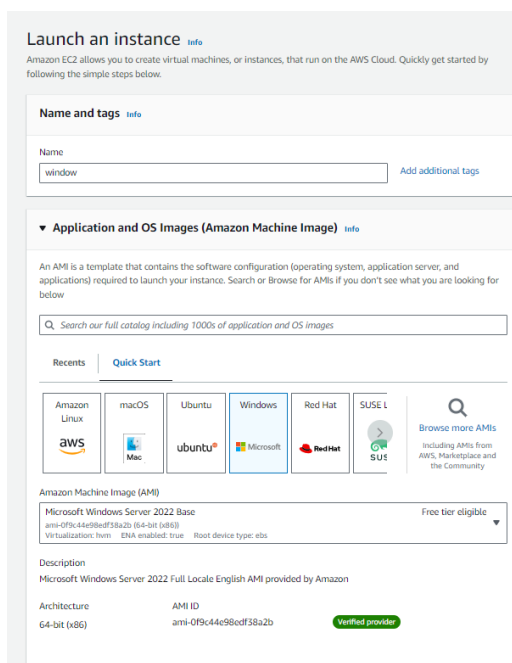
## ###CREATING THE INSTANCE FOR MICROSOFT WINDOWS###

Step I : In Instances,Go to “Launch Instances”.

Step II : Enter the instance name.

Step III : Select the Windows AMI.

Step IV : Choose the key-pair.



Launch an instance

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

**Name and tags**

Name: window

**Application and OS Images (Amazon Machine Image)**

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below.

Search our full catalog including 1000s of application and OS images

Recently | Quick Start

Amazon Linux, macOS, Ubuntu, Windows, Red Hat, SUSE Linux

Microsoft Windows Server 2022 Base

ami-0f9c44e98edf38a2b (64-bit (x86))

Virtualization: hvm, ENA enabled: true, Root device type: ebs

Description: Microsoft Windows Server 2022 Full Locale English AMI provided by Amazon

Architecture: 64-bit (x86), AMI ID: ami-0f9c44e98edf38a2b

Step IV : Choose the Security key.

Step V : Click on Launch Instance”.

vpc-0ee2a53913c3112cf

Subnet [Info](#)

No preference (Default subnet in any availability zone)

Auto-assign public IP [Info](#)

Enable

Firewall (security groups) [Info](#)

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☒ Create security group ☐ Select existing security group

We'll create a new security group called 'launch-wizard-12' with the following rules:

☒ Allow RDP traffic from

☐ Allow HTTPS traffic from the internet  
To set up an endpoint, for example when creating a web server

☐ Allow HTTP traffic from the internet  
To set up an endpoint, for example when creating a web server

**Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.**

**▼ Summary**

Number of instances [Info](#)

Software Image (AMI)

Microsoft Windows Server 2022 ...read more  
ami-0f9c44e98edf38a2b

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 30 GiB

Cancel **Launch instance**  
[Review commands](#)

**▼ Configure storage** [Info](#) [Advanced](#)

1x  GiB  Root volume: (Not encrypted)

[Add new volume](#)

The selected AMI contains more instance store volumes than the instance allows. Only the first 0 instance store volumes from the AMI will be accessible from the instance

[Click refresh to view backup information](#)  
The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.

0 x File systems [Edit](#)

**► Advanced details** [Info](#)

Step VI : Select the windows instances in Instances and click to “connect”.

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status
<input type="checkbox"/>	waar	i-04b4047b0445d7af5	Stopped	t2.micro	–	<a href="#">View alarms</a>
<input checked="" type="checkbox"/>	window	i-077326f1371ccf006	Running	t2.micro	Initializing	<a href="#">View alarms</a>
<input type="checkbox"/>	elastic	i-08a78949cf8c7d328	Running	t2.micro	Initializing	<a href="#">View alarms</a>

Step VII : Click on RDP( Remote Desktop Protocol) client then “Download remote desktop file”.

EC2 > Instances > i-077326f1371ccf006 > Connect to instance

### Connect to instance [Info](#)

Connect to your instance i-077326f1371ccf006 (window) using any of these options

Session Manager

**RDP client**

EC2 serial console

Instance ID  
i-077326f1371ccf006 (window)

Connection Type

☒ **Connect using RDP client**  
Download a file to use with your RDP client and retrieve your password.

☐ **Connect using Fleet Manager**  
To connect to the instance using Fleet Manager Remote Desktop, the SSM Agent must be installed and running on the instance. For more information, see [Working with SSM Agent](#)

You can connect to your Windows instance using a remote desktop client of your choice, and by downloading and running the RDP shortcut file below:

Download remote desktop file

When prompted, connect to your instance using the following username and password:

Public DNS  
ec2-54-152-110-215.compute-1.amazonaws.com

Username [Info](#)  
Administrator

Password [Get password](#)


ⓘ If you've joined your instance to a directory, you can use your directory credentials to connect to your instance.

Cancel


Step VIII : open the downloaded file.

Step IX : click “connect”.

Remote Desktop Connection

 **The publisher of this remote connection can't be identified. Do you want to connect anyway?**

This remote connection could harm your local or remote computer. Do not connect unless you know where this connection came from or have used it before.



**Publisher:** Unknown publisher  
**Type:** Remote Desktop Connection  
**Remote computer:** ec2-54-152-110-215.compute-1.amazonaws.com

☐ Don't ask me again for connections to this computer

Show Details

Connect

Cancel

Step X : upload the private key file.

Step XI : Decrypt the password.



EC2 > Instances > i-077326f1371ccf006 > Get Windows password

### Get Windows password [Info](#)

Use your private key to retrieve and decrypt the initial Windows administrator password for this instance.

Instance ID  
i-077326f1371ccf006 (window)

Key pair associated with this instance  
newdata

Private key  
Either upload your private key file or copy and paste its contents into the field below.

[Upload private key file](#)

Private key contents - optional

```
-----BEGIN RSA PRIVATE KEY-----
MvOcfS4Z7WEHbj/U9KMTKpANm3qGiwU6kdrGKLTJbcjJW1OvElIEFTkun+JVkCP
5gqK5KySzyURUKbfhAlKQKbqDvY6+40zB7XBL2fN6ao+n/BUosOyRn5sPqXMITs
69HV53hDAVc9JML4iVaagHb+BIOTYkLzyah+8YyFgy2LTZKTWabJkoi5UaNs1It
Bjn/FWdPgG1zQRMsc5k/ROTJ/jzdKcebA+c05G24YQTEZE9sSDYe158DbcEksc45
GAuhAogBAJ5urBtuqX6toUwLYcNgCHAKG1PqpOeMmruHO8Eozkf/GVK5KpabRnzA
THTWKBXqExNU75Tzb7uawXLeg82WfNlbNdYp6plwDVMGG1yDG7ZJfz9QFhi3f8
GLmDtpsDgonimjGYNxH5ZJLHHDYfNP7gepxRkp8HGM2GekK
-----END RSA PRIVATE KEY-----
```

[Cancel](#) [Decrypt password](#)

Step XII : Copy the password and paste it.

EC2 > Instances > i-077326f1371ccf006 > Connect to instance

### Connect to instance [Info](#)

Connect to your instance i-077326f1371ccf006 (window) using any of these options

Session Manager **RDP client** EC2 serial console

Instance ID  
i-077326f1371ccf006 (window)

Connection Type

☒ Connect using RDP client  
Download a file to use with your RDP client and retrieve your password.

☐ Connect using Fleet Manager  
To connect to the instance using Fleet Manager Remote Desktop, the SSM Agent must be installed and running on the instance. For more information, see [Working with SSM Agent](#)

You can connect to your Windows instance using a remote desktop client of your choice, and by downloading and running the RDP shortcut file below:

[Download remote desktop file](#)

When prompted, connect to your instance using the following username and password:

Public DNS  
ec2-54-152-110-215.compute-1.amazonaws.com

Username [Info](#)  
Administrator

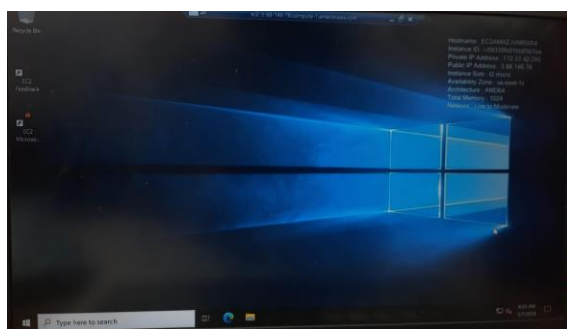
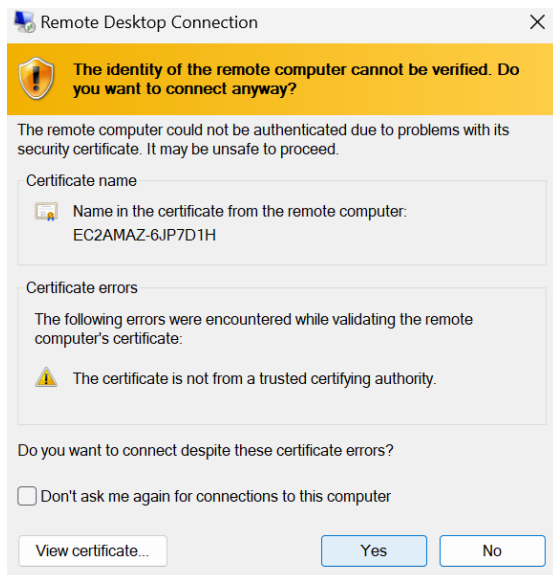
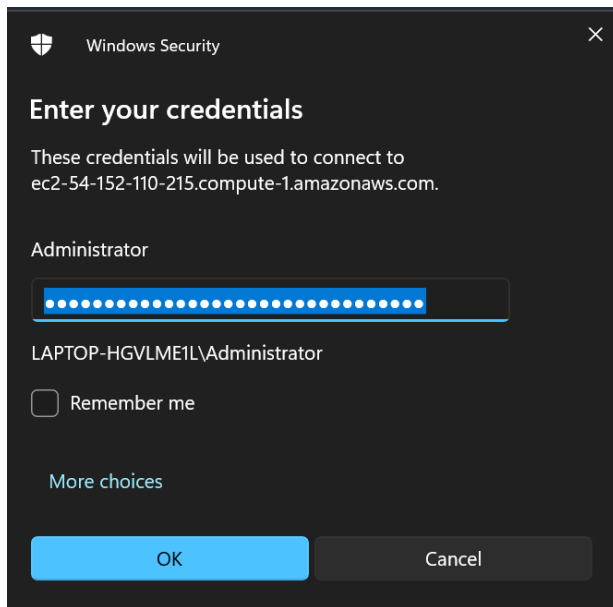
[Password copied](#)

ZKtlk\*KKx9w@e%kUEJh\*5Ltky7Se@SC

[If you've joined your instance to a directory, you can use your directory credentials to connect to your instance.](#)

[Cancel](#)

Step XIII : Click “OK” then “Yes” to connect successfully



## ###CREATING NETWORK INTERFACES FOR MULTIPLE IP'S ###

Step I : Click on “Network Interfaces”.

Step II : Click “Create Network Interfaces”.

Step III : Add the Description and select the Subnet .

Step IV : Set the Private IP to “Auto-assign”.

Step V : Select the desired security groups.

Step VI : Click “Create network interface”,

Subnet

The subnet in which to create the network interface.

subnet-07912f02-803f4

Private IPv4 address

The private IPv4 address to assign to the network interface.

☒ Auto-assign

☐ Custom

Elastic Fabric Adapter

☐ Enable

► Advanced settings

Security groups (1/17) info

Find security groups

Group ID	Group name	Description
<input checked="" type="checkbox"/> sg-090165aa-7827d03d3	launch-wizard-2	launch-wizard-2 created 2024...
<input type="checkbox"/> sg-0f581172-2d8d56208	launch-wizard-11	launch-wizard-11 created 202...
<input type="checkbox"/> sg-04e76843-142979056	default	default VPC security group
<input type="checkbox"/> sg-048b0aaac23670522	launch-wizard-10	launch-wizard-10 created 202...
<input type="checkbox"/> sg-0f3c4bd4784e0bf3d	launch-wizard-26	launch-wizard-26 created 202...
<input type="checkbox"/> sg-07caf121d39ac1b63	launch-wizard-1	launch-wizard-1 created 2024...

Tags - optional

A tag is a label that you assign to an AWS resource. Each tag consists of a key and an optional value. You can use tags to search and filter your resources or track your AWS costs.

No tags associated with the resource.

Add new tag

You can add 50 more tags.

Cancel Create network interface

Step VII : Select the network interface and give it a name.

Step VIII : Click on “Actions” then “Attach”

Network interfaces (1/5) Info									
<input type="text" value="Search"/>									
<input type="checkbox"/>	Name	Network interface ID	Subnet ID	VPC ID	Availability Zone	Security group n...	Security group IDs	Interface Type	Description
<input type="checkbox"/>		eni-01cc7fa81d2dfe3a7	subnet-0b449152f37dc1844	vpc-0ee2a53913c3112cf	us-east-1d	launch-wizard-22	sg-0981f9f84fa76a0...	efs	EFS mount target for fs...
<input type="checkbox"/>		eni-0b1d8d0071e050c98	subnet-07912fcbf02c803f4	vpc-0ee2a53913c3112cf	us-east-1c	launch-wizard-2	sg-090165aa7827d0...	Elastic network interface	–
<input checked="" type="checkbox"/>	inter	eni-05414cd7456b23367	subnet-07912fcbf02c803f4	vpc-0ee2a53913c3112cf	us-east-1c	launch-wizard-2	sg-090165aa7827d0...	Elastic network interface	–
<input type="checkbox"/>		eni-0646b10f154ce0821	subnet-07912fcbf02c803f4	vpc-0ee2a53913c3112cf	us-east-1c	launch-wizard-11	sg-0f5811722d8d56...	Elastic network interface	–
<input type="checkbox"/>		eni-08551c4669b0062c4	subnet-07912fcbf02c803f4	vpc-0ee2a53913c3112cf	us-east-1c	launch-wizard-12	sg-0a23b7ca964032...	Elastic network interface	–

Step IX : Choose the instance and click “Attach”.

Attach network interface

Network interface

eni-05414cd7456b23367 (inter)

Instance

i-04b4047b0445d7af5

ENA Express

The selected instance type (t2.micro) does not support ENA Express.

ENA Express

Enable ENA Express to increase the maximum bandwidth used per stream and minimize tail latency of network traffic between EC2 instances.

☐ Enable

ENA Express UDP

Use ENA Express for UDP traffic.

☐ Enable

Cancel

Attach

Step X : here we get multiple IP’s

EC2 > Instances > i-04b4047b0445d7af5		
<div> <div>Instance summary for i-04b4047b0445d7af5 (waar) Info</div> <div>Updated less than a minute ago</div> </div>		
<div>Instance ID</div> <div>i-04b4047b0445d7af5 (waar)</div>	<div>Public IPv4 address</div> <div>–</div>	<div>Private IPv4 addresses</div> <div> <div>172.31.33.156</div> <div>172.31.33.7</div> </div>
<div>IPv6 address</div> <div>–</div>	<div>Instance state</div> <div>Running</div>	<div>Public IPv4 DNS</div> <div>–</div>
<div>Hostname type</div> <div>IP name: ip-172-31-33-156.ec2.internal</div>	<div>Private IP DNS name (IPv4 only)</div> <div>ip-172-31-33-156.ec2.internal</div>	<div>Elastic IP addresses</div> <div>–</div>
<div>Answer private resource DNS name</div> <div>IPv4 (A)</div>	<div>Instance type</div> <div>t2.micro</div>	<div>AWS Compute Optimizer finding</div> <div>Opt-in to AWS Compute Optimizer for recommendations</div>
<div>Auto-assigned IP address</div> <div>–</div>	<div>VPC ID</div> <div>vpc-0ee2a53913c3112cf</div>	<div>Auto Scaling Group name</div> <div>–</div>
<div>IAM Role</div> <div>–</div>	<div>Subnet ID</div> <div>subnet-07912fcbf02c803f4</div>	
<div>IMDSv2</div> <div>Required</div>		

